Medical Decision-Making Capacity: Medical decision-making capacity: knowledge, attitudes, and clinical evaluation practices of primary care physicians and psychiatrists in Croatia

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Medical decision-making capacity: Knowledge, attitudes, and clinical evaluation practices of primary care physicians and psychiatrists in Croatia

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Abstract

Decision-making capacity (DMC) is a prerequisite for informed consent to medical treatments. However, little is known about physicians' knowledge, attitudes, and evaluation of DMC in Croatia which was therefore the main aim to assess in the present study. A survey was conducted among 180 general practitioners and psychiatrists in Croatia. Despite DMC being dichotomous concept from a legal perspective, about 90 percent of physicians indicated that they understand DMC as a gradual concept. A majority of physicians considered themselves responsible and qualified to conduct DMC evaluations. However, a large minority of physicians considered themselves insufficiently qualified. General practitioners considered themselves less responsible and less qualified than psychiatrists. Almost all participants indicated that they would welcome official guidelines and training.

Keywords: decision-making capacity; assessment; ethics; informed consent; self-determination

Introduction

Every medical procedure traditionally requires the patient's informed consent assuming the ability of that patient to provide consent (e.g., Faden, Beauchamp, & King, 1986; Spike, 2017). Some scholars designate decision-making capacity (DMC) the key component of informed consent to treatment (Moye & Marson, 2007). According to the Stanford Encyclopedia of Philosophy, DMC can be "defined as the *ability* of healthcare subjects to make their own health care decisions" (Charland, 2011). Grisso and Appelbaum (1998) defined the standard criteria for DMC: (a) the ability to understand the relevant information; (b) the ability to appreciate the disorder and the medical consequences of the situation; (c) the ability to reason about treatment choices; and (d) the ability to communicate a choice.

Some medical conditions and situations may diminish a patient's DMC, for example dementia, delirium, or certain psychiatric disorders such as depression or schizophrenia (e.g., Appelbaum, 2007; Hermann, Trachsel, Mitchell, & Biller-Andorno, 2014; Lamont, Stewart, & Chiarella, 2017). While physicians possess medical knowledge and clinical skills, patients have their own individual subjective knowledge and interpretations of their disorders that are influenced by personal attitudes or religious beliefs. Physicians have a professional and moral obligation to help and protect patients, based on the ethical principles of beneficene and non-maleficence (Beauchamp & Childress, 2009), while patients have a general right of self-determination that has to be respected by healthcare professionals, based on the ethical principle of respect for autonomy (Beauchamp & Childress, 2009). When patients lack DMC, it may be difficult to balance the two ethical principles of respect for autonomy and beneficence (Buchanan & Brock, 1989).

Little is currently known about how physicians evaluate or conceptualize DMC, what difficulties they experience, and how they deal with those difficulties (Lamont, Jeon, & Chiarella, 2013). With regard to DMC criteria, knowledge among physicians is very limited and "misunderstandings and knowledge deficits about the assessment of decision-making capacity are common" among psychosomatic medicine psychiatrists, geriatricians, and geriatric psychologists (Ganzini, Volicer,

Nelson, & Derse, 2003, p. 240). A study in the UK revealed that 58 percent of psychiatrists were informed regarding capacity to consent to or refuse treatment, compared with 34% of geriatricians, and 20% of general practitioners (Jackson & Warner, 2002). Another study by the same authors showed that 67% of doctors and 10% of nurses gave correct answers on criteria for assessing capacity to consent to or refuse treatment (Evans, Warner, & Jackson, 2007). A study in Switzerland (Hermann et al., 2014) demonstrated that accredited Swiss physicians differ in their attitudes to DMC and their clinical evaluation practices in this regard, and they expressed a clear need for more guidance in this area. Both DMC and physicians' decisions may be influenced by factors other than patients' symptoms, such as culture and the social background of both physicians and patients, which may include contextual differences in physician training and systems of healthcare delivery (Bär Deucher, Hengartner, Kawohl, Konrad, Puschner, Clarke, et al., 2016; Helton, van der Steen, Daaleman, Gamble, & Ribbe, 2006).

An interesting and difficult issue with regard to DMC is "whether decisional capacity should be considered a fixed mental commodity, or instead assessed according to a 'sliding scale' that varies with the associated risks and circumstances" (Charland, 2011). Whether or not physicians evaluate DMC in terms of the severity of a given intervention's consequences is also known as the problem of *risk-relativity*.

To contribute to the evidence acquired in different social, cultural, and economic settings, the present study sought to explore the knowledge, attitudes, and evaluation practices of primary care physicians (general practitioners, GPs) and psychiatrists in Croatia with regard to DMC. For this purpose, we used an existing survey questionnaire developed by Hermann and colleagues (2014). The present study was also guided by findings from one of Croatia's largest academic clinical centers identifying uncertain or impaired DMC as the most common source of ethical dilemmas among healthcare professionals (Sorta-Bilajac, Bazdarić, Brozović, & Agich, 2008). Although studies show that patients with mental disorders often have preserved DMC, the majority of conditions associated with reduced DMC are caused or accompanied by psychiatric, neurological,

and neurodegenerative diseases (Appelbaum & Grisso, 1995; Okai, Owen, McGuire, Singh, Churchill, & Hotopf, 2007). Therefore, psychiatrists and neurologists are commonly positioned to deal with DMC in their area of expertise. For that reason, besides GPs, the present study surveyed psychiatrists as well.

The following clusters of research questions guided the survey based on the preliminary study in Switzerland by Hermann and colleagues (2014):

1. How do physicians perceive their responsibility and qualifications to conduct DMC evaluations?
2. What is the current state of physicians' attitudes toward and knowledge of DMC in terms of general conceptual understanding, relevant mental abilities, decisional relativity, and risk-relativity?
3. How is DMC dealt with in clinical practice? Which patient behaviors and patient groups are seen as indicators of impaired DMC? Which complicating factors do physicians encounter? And what kinds of interventions and strategies do physicians use to enhance patients' DMC?
4. What kind of DMC assessment procedures do physicians conduct?
5. Do physicians request DMC assessment tools and official guidelines, or do they seek more extensive education and training?

Methods

Study design, procedure, and sample

The present study was designed as a cross-sectional survey and based on a Swiss study of the same issue (Hermann et al., 2014). The study focused on two kinds of medical specialists because of their presumed involvement in DMC evaluations: GPs and psychiatrists. In the Croatian health system, GPs are not only gatekeepers, but also see patients across the entire range of clinical conditions, including through primary contact with individuals who lack DMC. Psychiatrists were included because psychiatric diseases frequently accompany reduced DMC, and because psychiatrists'

activities in consultation and liaison psychiatry frequently involve DMC evaluation. Therefore, the target sample included all physicians in Croatia listed as GPs under contract with the Croatian Health Insurance Fund in 2015 (available at: http://cdn.hzzo.hr/wp-content/uploads/2013/10/web_opca_072016.xls) and all members of the Croatian Psychiatric Society which provided contact details for their members.

All potential participants were contacted by postal mail and invited to complete a paper-and-pencil survey questionnaire, which was enclosed with a prepaid return envelope. As the study was not governed by Croatian Human Research Law (because no patients were included), no formal ethical approval was necessary. As explained in the survey, full completion and return of the questionnaire was taken as implicit consent for anonymous use of the data. The data collection period ranged from January to April, 2015.

Survey questionnaire

The development of the original questionnaire included several phases of multi-disciplinary discussion between physicians, psychologists, ethicists, and lawyers (Hermann et al., 2014). The survey addressed five aspects of DMC in clinical practice: (1) physicians' perceptions of their responsibility and qualifications for conducting DMC evaluations; (2) physicians' attitudes and knowledge of DMC in terms of general conceptual understanding, the relevant mental abilities, decisional relativity, and risk-relativity; (3) physicians' dealings with DMC in clinical practice; (4) physicians' use of DMC evaluation procedures; and (5) physicians' requests for DMC assessment tools, official guidelines, or more extensive education and training. The original survey was translated from German to Croatian by the first author (DN) and edited by a professional translator and editor. (The Croatian version of the questionnaire is available from the authors on request.)

Statistical analysis

Statistical analyses were performed using the Statistics Package for the Social Sciences, version 22 (SPSS, Chicago, IL, USA). Descriptive data are presented as percentages or mean ± standard error of the mean (SEM) as appropriate. Non-parametric testing was used to compare groups (Mann-

Whitney U-test) or variables (Wilcoxon Signed-Ranks test). Spearman's coefficient was used to assess correlations. Frequencies were compared using chi-square-tests. A level of 5% was considered statistically significant.

Results

Response rate and demographic characteristics

In total, 180 valid questionnaires were returned, corresponding to an overall response rate of 6.3%. Of the 2,336 questionnaires sent to GPs, 118 were returned completed, 26 were returned undelivered, and 4 were returned uncompleted (response rate = 5.1%; $n = 118$). Of the 571 questionnaires sent to psychiatrists, 62 were returned completed, 28 were returned undelivered, 4 were returned because the physician had retired, 1 was returned because the physician had died, and 2 were returned uncompleted (response rate = 10.9%; $n = 62$).

Of the respondents, 135 were women (75.0%) and 45 were men (25.0%). Sixty-two physicians were psychiatrists (35.6%) and 118 were GPs (64.4%). The mean age of the GPs was 50.3 years ($SD = 8.03$) and the mean age of the psychiatrists was 52.9 years ($SD = 6.37$).

Perceived responsibility and qualification for evaluation of DMC

Table 1 shows the absolute values for perceived responsibility and qualifications for conducting and evaluating DMC, as reported by general practitioners (GPs) and psychiatrists (Psych). The results show that 65.6% (40/61) of psychiatrists reported that they *frequently* encountered unclear DMC in their clinical practice versus 29.7% (35/118) of GPs. Psychiatrists significantly more often reported having encountered unclear DMC than GPs ($\chi^2 = 19.855$, df = 1; $p < 0.0001$). None of the physicians indicated that they *never* or *always* encountered individuals with unclear DMC.

On average, psychiatrists considered themselves more responsible ($p < 0.001$) and more qualified than GPs ($p < 0.001$; Mann-Whitney U-test) (Table 1). No gender differences were found among either GPs or psychiatrists in terms of either perceived responsibility or qualification. The influence of professional experience (expressed in years working as a physician) on perceived responsibility and qualification was found to be significantly positively correlated with the reported

level of responsibility or qualification for DMC (Spearman correlation coefficient, $p < 0.05$ for both items). Psychiatrists encountered individuals with unclear DMC more often than GPs ($p < 0.001$; Mann-Whitney U-test).

Attitudes to relevant criteria for DMC

The vast majority of GPs and psychiatrists (89.7%, $n = 117$ and 90.0%, n = 59, respectively) indicated that they understand DMC as a gradual rather than a dichotomous concept. Only a few participants were indecisive in answering this question (1.1%, $n = 176$), and only 9.1% (16/176) indicated that they understood DMC as a dichotomous concept. There was no difference between GPs and psychiatrists in this regard.

Both groups of practitioners assigned significantly more weight to understanding and reasoning as relevant criteria for DMC than to any other dimensions ($p < 0.001$; Wilcoxon rank-test) (Table 2); reference to one's biography was considered the least relevant criterion. GPs and psychiatrists assigned similar weights to understanding, appreciation, reasoning, evidencing a choice, engaging emotionally and intuitively in the decision, and reasoning about the given information in light of a coherent set of personal values ($p > 0.05$, Mann-Whitney U-test). Psychiatrists assigned more weight than GPs to evidencing a choice ($p < 0.05$; Mann-Whitney U-test). A majority of physicians considered non-cognitive factors to be *rather* or *very* relevant, including emotional participation (76.9%, $n = 173$); reference to one's biography, experiences, and intuitive knowledge (63.9%, $n = 172$); and reference to one's personal values (86.7%, $n = 173$). However, psychiatrists assigned more weight than GPs to emotional participation ($p < 0.01$, Mann-Whitney U-test). None of the participants considered cognitive factors to be *not at all relevant*, and only three considered them *rather not relevant*.

Risk-relativity

A high proportion of both GPs (89.7%; $n = 107$) and psychiatrists (83%; $n = 58$), indicated that, when generally formulated, risk-relativity was *rather relevant* or *very relevant* to how they evaluate DMC. However, risk-relativity was judged differently if applied to a concrete example (Figure 1).

In cases of consent to or refusal of chemotherapy (case 1), about half of both GPs (50.4%, $n = 118$) and psychiatrists (58%, $n = 62$) would apply equally stringent criteria for mental abilities, ignoring risk-relativity (see chemotherapy vignette).

Decisional relativity

To investigate whether or not physicians evaluate DMC specifically in relation to the decision at hand (decisional relativity), the following scenario was presented. Informed consent was to be sought for two different interventions discussed during the same consultation: (1) an adjustment of medication and (2) a minor surgical intervention (Case 2). The findings indicate that 46.1% ($n = 178$) of all respondents would evaluate DMC only for the first intervention, and would use this to extrapolate DMC for the second intervention, while 53.9% ($n = 178$) would conduct a separate DMC evaluation for each of the two interventions. No differences were observed between GPs and psychiatrists ($p > 0.05$, Mann-Whitney U-test).

Impact of factors other than patients' mental abilities

The influence of factors other than patients' mental abilities on DMC evaluation has been well documented. For that reason, in the present study, physicians were asked to indicate the extent of these factors' likely impact (see Table 3).

Psychiatrists indicated more than GPs that the therapeutic relationship, the social context, and the complexity of alternatives for DMC evaluation influenced DMC evaluation, although the difference did not reach the level of statistical significance (Mann-Whitney U-test: $p = 0.06$, $p = 0.10$, and $p = 0.10$, respectively). Both psychiatrists and GPs equally considered other factors influencing DMC evaluation (Mann-Whitney U-test; $p > 0.4$), judging medical context as the most influential factor and the physician's own values as the least influential. Nevertheless, almost half (44.9%; $n = 158$) of all respondents considered their own set of values a *fairly* or *very* influential factor. Overall, "objective" factors (psychopathological status, medical context, and somatic status) predominated.

Frequency of DMC evaluation in different diagnostic groups

When asked about the frequency of DMC evaluation in different diagnostic groups, participants referred predominantly to all types of dementias and psychoses (see Table 4).

Psychiatrists evaluated DMC in individuals with Alzheimer's disease, internal medicine in-patients, and those with schizophrenia more frequently than GPs. However, they rarely evaluated the DMC of healthy elderly people, those at the end of life, or those with learning deficiencies.

Patient behaviors indicating impaired DMC

GPs and psychiatrists reported similar indicators for impaired DMC (Table 5); in total, 83.33% were concerned when a patient posed a direct risk to themselves or others (i.e., were suicidal or posed some other physical threat), and 78% were concerned when a patient made irrational decisions (e.g., a desire for assisted suicide in cases of treatable disease). However, all the situations listed in Table 5 prompted more than half of the respondents to either always or in most cases consider DMC.

Reported DMC evaluation procedures

Both GPs and psychiatrists mostly indicated that they conduct implicit rather than explicit evaluation of DMC (Wilcoxon Rank test; $p < 0.01$) (Table 6). GPs made referrals to specialized colleagues for DMC evaluation more frequently than psychiatrists (Mann-Whitney U-test; $p < 0.05$).

A majority of the participants (79% of GPs; 94% of psychiatrists) used unstructured interviews and their own situation-specific questions (Table 7). In this open-ended format, physicians referred only to using the Mini Mental State Examination (MMSE) as a structured instrument that particularly focuses on orientation, attention, and memory and is definitely not an appropriate tool for DMC assessment. The following DMC-specific instruments were unknown to more than half of the participants: the Mac Arthur Competence Assessment Tool for Treatment (57.4%, $n = 176$); the Aid to Capacity Evaluation (66.3%, $n = 175$); Silberfeld's Competence Tool (76.1%, $n = 176$); and Hopkins Competency Assessment Tool (64.2%, $n = 176$). Only three physicians (1.7%) had ever used, or were currently using, DMC-specific instruments.

Complicating factors in DMC evaluations

Both GPs and psychiatrists reported that certain factors complicated DMC evaluation (Table 8). Of these respondents, 57.9% reported that these factors occur *rarely*, and 41.5% reported that they occur *frequently* or *always*. Psychiatrists reported more concerns than GPs regarding complicated ethical or unclear legal situations.

Strategies for enhancing DMC

Psychiatrists more frequently considered psychological aspects to be significant in the enhancement of patient DMC than GPs, and indicated that they applied short psychotherapeutic interventions. They also took more care than GPs to ensure that the dialogue occurred in a relaxed and comfortable atmosphere.

Guidelines, education and training

Most participants from both groups (94.4%) would welcome official guidelines as *rather helpful* or *very helpful* and education/training (98.9%) as *rather useful* or *very useful* (Table 10). Most physicians (96.2%) would also welcome additional tools of some kind; only a few (3.8%) would not welcome any of the suggested tools (Table 11). Given the finding that standardized tests were almost unknown, this finding can be interpreted as a wish for more information.

Discussion

The present study focused in part on GPs, who are not only gatekeepers in the Croatian healthcare system, but see patients across the entire range of clinical conditions, which includes primary contact with individuals who lack DMC. However, psychiatrists were also included because mental diseases are often related to a lack of DMC and psychiatrists' activities in consultation and liaison psychiatry frequently involve DMC evaluation. Their participation in these activities could explain the finding that most psychiatrists considered themselves both responsible and qualified for evaluating DMC. Although GPs considered themselves responsible for DMC evaluations, they felt they were not qualified enough to perform them. In comparison, psychiatrists considered themselves both more responsible and more qualified than GPs for DMC evaluation. These findings

correspond one-to-one to the findings of the parallel study conducted in Switzerland, indicating that the validity of these findings may not be limited to Croatia (Hermann et al., 2014).

Despite DMC being a dichotomous concept in the law, about 90 percent of GPs and psychiatrists indicated in the present study that they understand DMC as a gradual concept. This conveys a clear lack of knowledge because although mental abilities can gradually be reduced in a single person, he or she always has or does not have DMC for a particular decision at a given point in time, which is what is meant by the "relativity" of DMC (see e.g., Hermann, Trachsel, & Biller-Andorno, 2015; Trachsel, Hermann, & Biller-Andorno, 2015). That DMC is either present or absent for a particular point in time does also imply that DMC can fluctuate over time, for example, in certain forms of dementia, in delirium, depression, or schizophrenia (Hermann et al., 2015).

Because scholars have criticized the traditional approach to DMC as one that is too cognitive and fails to take proper account of non-cognitive factors (e.g., Banner & Szmukler, 2013; Charland, 1998), in the present study, other possible criteria, such as emotional factors and values, were included. Indeed, this study found that the participating physicians not only regarded the classical cognitive criteria by Appelbaum and Grisso (1995) as relevant for DMC, but also intuitions, emotions, and values. These findings also correspond to the findings of the Swiss study conducted by Hermann et al. (2014). However, it would be interesting to see how the participating physicians would rate these additional criteria in concrete clinical cases, which could not be investigated in this study. There are two conceptual papers on these issues claiming that "since the traditional criteria for medical decision-making capacity (understanding, appreciation, reasoning, evidencing a choice) were formulated, they have been criticized for not taking sufficient account of emotions or values that seem, according to the critics and in line with clinical experiences, essential to decision-making capacity" (Hermann, Trachsel, Elger, & Biller-Andorno, 2016, p. 1), and that the evaluation of DMC always includes a value judgement (Hermann et al., 2015).

In the sample used for the present study, 94 percent of clinicians reported that they rarely or never used specific assessment tools for DMC, and only 1.7 percent indicated that they routinely

used standardized clinical interviews. Additionally, only percent of the respondents reported using functional assessment scales. These results also correspond to the findings from the earlier study conducted in Switzerland (Hermann et al., 2014), and confirm that clinicians perform DMC evaluations implicitly as part of their general patient consultations. This may reflect the limited time available to examine each patient or the view that psychometric testing traditionally belongs in the domain of psychologists, which might explain the participants' lack of knowledge regarding the instruments mentioned in the questionnaire. Another explanation could be that within general consultations, physicians routinely engage in conversations that orbit the traditional criteria for medical decision-making capacity (understanding, appreciation, reasoning, evidencing a choice), and therefore, they usually more or less know after their consultations if a patient currently has DMC for a particular decision, rendering explicit evaluations obsolete.

The present study revealed that almost all participants would welcome a more explicit focus on DMC evaluation during undergraduate and/or postgraduate education, based on official recommendations from, for example, the medical council. It remains unclear whether this finding relates to a higher interest in DMC evaluation among respondents as compared to non-respondents (self-selection bias). Nevertheless, it seems that a majority would welcome additional tools for DMC evaluation, regardless of their level of perceived responsibility and qualification.

What can be concluded from the present study? A first lesson might be that GPs need to prioritize their qualification for DMC evaluation, as they are the gatekeepers to medical services in Croatia. Therefore, the need to train GPs with regard to DMC evaluation should be discussed at a medical policy level. A second lesson could be that there are guidelines needed to provide GPs and psychiatrists, as well as other specialists, with criteria that have to be met in order to deem a patient capable of decision making.

Limitations

The present study has several limitations. The most obvious one is the small response rate of only 6.3 percent. Furthermore, there is a clear over-representation of female physicians participating in

the study (75 percent). These two facts led to lack of representativeness. Therefore, we assume a certain response or self-selection bias to the extent that physicians with a particular need for or interest in the topic were more likely to respond. This bias doesn't allow us to generalize the findings to all GP's and psychiatrists in Croatia. A further limitation concerns the definition of the meanings of the suggested criteria in the survey questionnaire. They were not defined, and we can therefore not be certain whether every participant had the same understanding of the following terms: understanding, appreciation, reasoning, personal values, reference to one's biography, emotional engagement, and evidencing a choice. Another limitation is that only GPs and psychiatrists were invited to participate, which prevents generalization to other specialties. In addition, the fact that the present study purely relies on quantitative data is a limitation. It would have been interesting to ask physicians for their reasons with regard to particular answers which could have been assessed only by a mixed-method design including the collection of qualitative data. Interesting areas for potential study in the future include the relevance of intuitions, emotions, and values in DMC.

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Ethical approval

Because the study did not fall under the Human Research Law (no patients included), no formal ethical approval was required.

Authorship declarations

DN, NBA, and MT participated in the design of the study. DN was responsible for the acquisition and analysis of data and drafted the first version of the manuscript. DN, SLM, NBA, and MT

participated in data interpretation and manuscript preparation. All authors read and approved the final manuscript.

Competing interests

All authors declare that no support was received from any organization for the submitted work, with exception of the above-mentioned funding body; there were no financial relationships in the previous three years with any organizations that might have an interest in the submitted work; and no other relationships or activities could appear to have influenced the submitted work.

References

Appelbaum, P. S. (2007). Assessment of patients' competence to consent to treatment. *New England Journal of Medicine, 357*, 1834–1840.

Appelbaum, P. S., & Grisso, T. (1995). The MacArthur treatment competence study I: Mental illness and competence to consent to treatment. *Law and Human Behavior, 19*(2), 105–126.

Banner, N. F., & Szmukler, G. (2013). "Radical interpretation" and the assessment of decision-making capacity. *Journal of Applied Philosophy*, *30,* 379–394.

Bär Deucher, A., Hengartner, M. P., Kawohl, W., Konrad, J., Puschner, B., Clarke, E., et al. (2016). Participation in medical decision-making across Europe: An international longitudinal multicenter study. *European Psychiatry, 35*, 39–46.

Beauchamp, T., & Childress, J. (2009). *Principles of Biomedical Ethics.* Oxford: Oxford University Press.

Buchanan, A. E., & Brock, D. W. (1989). *Deciding for others: The ethics of surrogate decision making.* Cambridge: Cambridge University Press.

Charland, L. C. (1998). Is Mr. Spock mentally competent? Competence to consent and emotion. *Philosophy, Psychiatry, & Psychology, 5*, 67–81.

Charland, L. C. (2011). Decision-making capacity. In: E. N. Zalta (Ed.), *The Stanford Encyclopedia of Philosophy* (Summer 2011 edition). Retrieved from http://plato.stanford.edu/archives(sum2011/entries/decision-capacity/

Faden, R. R., Beauchamp, T. L., & King, N. M. P. (1986). *A history and theory of informed consent.* New York: Oxford University Press.

Evans, K., Warner, J., & Jackson, E. (2007). How much do emergency healthcare workers know about capacity and consent? *Emergency Medical Journal, 24*, 391–393.

Ganzini, L., Volicer, L., Nelson, W., & Derse, A. (2003). Pitfalls in assessment of decision-making capacity. *Psychosomatics, 44,* 237–243.

Grisso, T., & Appelbaum, P. S. (1998). *Assessing competence to consent to treatment: A guide for physicians and other health professionals.* Oxford: Oxford University Press.

Helton, M. R., & van der Steen, J. T., Daaleman, T. P., Gamble, G. R., & Ribbe, M. W. (2006). A cross-cultural study of physician treatment decisions for demented nursing home patients who develop pneumonia. *Annals of Family Medicine, 4*(3), 221–227.

Hermann, H., Trachsel, M., & Biller-Andorno, N. (2015). Physicians' personal values in determining medical decision-making capacity: A survey study. *Journal of Medical Ethics, 41*(9), 739–744.

Hermann, H., Trachsel, M., Elger, B., & Biller-Andorno, N. (2016). Emotion and value in the evaluation of medical decision-making capacity: A narrative review of arguments. *Frontiers in Psychology, 7*, 765. doi: 10.3389/fpsyg.2016.00765

Hermann, H., Trachsel, M., Mitchell, C., & Biller-Andorno, N. (2014). Medical decision-making capacity: Knowledge, attitudes, and assessment practices of physicians in Switzerland. *Swiss Medical Weekly,* 144: w14039.

Jackson, E., & Warner, J. (2002). How much do doctors know about consent and capacity? *Journal of the Royal Society of Medicine, 95,* 601–603.

Lamont, S., Jeon, Y. H., & Chiarella, M. (2013). Health-care professionals' knowledge, attitudes and behaviours relating to patient capacity to consent to treatment: an integrative review. *Nursing Ethics, 20*(6), 684–707.

Lamont, S., Stewart, C., & Chiarella, M. (2017). Capacity and consent: knowledge and practice of legal and healthcare standards. *Nursing Ethics.* https://doi.org/10.1177/0969733016687162

Moye, J., & Marson, D. C. (2007). Assessment of decision-making capacity in older adults: An emerging area of practice and research. *The Journals of Gerontology, Series B, Psychological Sciences and Social Sciences, 62,* 3–11.

Okai, D., Owen, G., McGuire, H., Singh, S., Churchill, R., & Hotopf, M. (2007). Mental capacity in psychiatric patients: Systematic review. *British Journal of Psychiatry, 191*, 291–297.

Sorta-Bilajac, I., Bazdarić, K., Brozović, B., & Agich, G. J. (2008) Croatian physicians' and nurses' experience with ethical issues in clinical practice. *Journal of Medical Ethics, 34*(6), 450–455.

Spike, J. P. (2017). Informed consent Is the essence of capacity assessment. *The Journal of Law, Medicine & Ethics, 45*(1), 95–105.

Trachsel, M., Hermann, H., & Biller-Andorno, N. (2015). Cognitive fluctuations as a challenge for the assessment of decision-making capacity in patients with dementia. *American Journal of Alzheimer's Disease and Other Dementias, 30*(4), 360–363.

Table 1

Perceived responsibility and qualifications for conducting DMC evaluations as reported by general practitioners (GPs) and psychiatrists (Psych)

	Qualification									
	Not sufficiently qualified		Fairly insufficiently qualified		Fairly sufficiently qualified		Sufficiently qualified		TOTAL	
Responsibility	GPs	Psych	GPs	Psych	GPs	Psych	GPs	Psych	GPs	Psych
Not responsible	9	2	1	0	0	1	0	0	10	3
Not particularly responsible	2	0	7	0	3	0	0	0	12	0
Fairly responsible	5	0	14	2	47	24	0	1	66	27
Very responsible	1	0	3	2	10	6	13	21	27	29
TOTAL	17	2	25	4	60	31	13	22	115	59

Note. The total number of responses does not include those with missing answers for this part of the questionnaire.

Table 2

General practitioners' and psychiatrists' attitudes toward the relevance of understanding, appreciation, reasoning, personal values, reference to one's biography, emotional engagement, and evidencing a choice as criteria for decision-making capacity (mean rank ± SEM)

	GPs	Psychiatrists
Understanding	3.83±0.035 (*n* = 116)	3.90±0.040 (*n* = 59)
Appreciation	3.48±0.050 (*n* = 116)	3.58±0.069 (*n* = 59)
Reasoning	3.28±0.057 (*n* = 115)	3.39±0.080 (*n* = 59)
Personal values	3.21±0.063 (*n* = 114)	3.20±0.096 (*n* = 59)
Reference to one's biography	2.79±0.072 (*n* = 113)	2.75±0.112 (*n* = 59)
Engaging emotionally	2.91±0.073 (*n* = 114)	3.22±0.094 (*n* = 59)
Evidencing a choice	3.18±0.075 (*n* = 114)	3.46±0.098 (*n* = 59)

Note. Answers scored on a Likert-type scale: 1 – not at all relevant, 2 – rather not relevant, 3 – rather relevant, 4 – very relevant; *n* = number of physicians that answered the question.

Table 3

Factors reported to influence DMC evaluation by GPs and psychiatrists (mean rank ± SEM)

Dimension	GPs	Psychiatrists
Therapeutic relationship	2.91±0.098; (*n* = 95)	2.70±0.111; (*n* = 56)
Psychopathological status	3.29±0.092; (*n* = 99)	3.47±0.078; (*n* = 59)
Somatic status	2.91±0.092; (*n* = 99)	3.02±0.104; (*n* = 59)
Medical context	3.52±0.090; (*n* = 97)	3.47±0.106; (*n* = 59)
Physician's own values	2.44±0.102; (*n* = 99)	2.37±0.121; (*n* = 59)
Social context	2.69±0.086; (*n* = 99)	2.56±0.091; (*n* = 59)
Complexity of alternatives	3.01±0.089; (*n* = 99)	2.84±0.104; (*n* = 58)
Patient's relatives	2.69±0.090; (*n* = 99)	2.71±0.100; (*n* = 59)

Note. Answers scored on a Likert-type scale: 1 – not at all, 2 – rather not, 3 – rather, 4 – very; *n* = number of physicians that answered the question.

Table 4

Frequency of DMC evaluation by GPs and psychiatrists in different diagnostic groups

Condition	GPs	Psychiatrists
Alzheimer's dementia (*)	2.64±0.088; *n* = 114;	2.78±0.010; *n* = 60
Mild cognitive impairment (n.s.)	2.51±0.070; *n* = 114	2.50±0.097; *n* = 60
Unipolar depression (n.s.)	2.30±0.073; *n* = 114	2.48±0.108; *n* = 60
Internal medicine in-patients (*)	1.56±0.069; *n* = 112	1.97±0.109; *n* = 60
Schizophrenia (*)	2.44±0.090; *n* = 111	2.87±0.090; *n* = 60
Glioma (n.s.)	1.85±0.082; *n* = 111	1.63±0.114; *n* = 57
Healthy elderly people (*)	2.55±0.082; *n* = 114	2.15±0.114; *n* = 60
Parkinson's disease (n.s.)	2.27±0.074; *n* = 113	2.12±0.109; *n* = 60
People at the end of life (*)	2.60±0.082; *n* = 114	2.20±0.123; *n* = 59
Learning deficiency (*)	2.22±0.081; *n* = 114	1.85±0.118; *n* = 60

Note. Answers scored on a Likert-type scale: 1 – never, 2 – rarely, 3 – often, 4 – always; *n* = number of physicians that answered the question.
(* = Mann-Whitney U-test; $p < 0.05$)

Table 5

Reported indicators of impaired DMC

A patient does not agree with a physician-directed diagnosis/therapy.	55.93%
A patient makes incomprehensible decisions (e.g., a desire for assisted suicide in treatable disease).	78.21%
A patient yields every treatment decision to the attending physician or another person because he or she doesn't feel confident to make the right decision.	61.58%
A patient poses a direct risk to themselves or others (i.e., is suicidal or poses some other physical threat).	83.33%
A patient is desperate and approves all proposed treatments immediately and uncritically.	70.45%
A patient expresses the view that their decision doesn't matter.	63.13%
A patient repeatedly changes their opinion regarding a particular treatment option.	69.66%

Table 6

Reported evaluation procedures for DMC (mean rank ± SEM)

	GPs (n = 111)	Psychiatrists (n = 59)
Implicit evaluation	3.10±0.07	3.18±0.09
Explicit evaluation	2.37±0.09	2.63±0.13
In consultation	2.81±0.07	2.42±0.10

Note. *Answers scored on a Likert-type scale: 1 – never, 2 – rarely, 3 – often, 4 – always.

Table 7

Preferred methods of DMC evaluation

Method	GPs (n = 89)	Psychiatrists (n = 49)
Unstructured interview with own situation-specific questions	79.0%	94.0%
Semi-structured interview with partly predetermined questions	6.0%	10.0%
Standardized interview with precisely determined questions	11.0%	14.0%
Questionnaire or written test	10.0%	10.0%
Non-written test procedure	6.0%	4.0%

Table 8

Factors reported by GPs and psychiatrists to complicate DMC evaluation

Complicating factor	GPs (n = 118)	Psychiatrists (n = 62)
Application of risk/benefit consideration to final evaluation	16.9%	21.0%
Cases of marginal capacity or "grey area" between obvious capacity and obvious incapacity	66.9%	74.1%
Very complicated ethical situation (*)	36.4%	66.1%
Disagreement with other treating physicians or care team	16.9%	20.9%
Patient factors (e.g., unwillingness to cooperate)	48.3%	46.8%
Chaotic/conflicting family situation	67.8%	58.0%
Legal situation unclear (*)	20.3%	33.9%
None of the above	0.00%	0.00%

Note. * $p < 0.01$, chi-square-test

Table 9

Strategies used by GPs and psychiatrists to enhance patients' DMC

Importance and feasibility in everyday practice	Considered a relevant strategy	Implementation mostly feasible	Implementation unfeasible or of limited feasibility
GPs			
I defer capacity evaluation to a later point in time if the patient appears to be in bad shape. (n = 116)	97.4%	35.30%	62.10%
I align the disclosed information to patients' needs (e.g., additional written information, diagrams and illustrations, translations). (n = 117)	94.9%	30.8%	64.1%
I change medication that might influence a patient's mental abilities. (n = 117)	94.0%	37.6%	56.4%
I encourage the patient to discuss the upcoming decision with a person to whom they are close. (n = 116)	95.6%	59.5%	37.1%
I give the patient the option of being accompanied by someone to whom they are close. (n = 117)	95.7%	56.4%	39.3%
I take care to ensure that the dialogue occurs in a relaxed and comfortable atmosphere. (n = 117)	100.0%	54.7%	45.3%
I acknowledge and discuss psychological aspects, such as anxiety and avoidance tendencies, or carry out short psychotherapeutic interventions. (n = 115)	100.0%	43.5%	56.5%
Psychiatrists			
I defer capacity evaluation to a later point in time if the patient appears to be in bad shape. (n = 61)	98.4%	34.4%	63.9%
I align the disclosed information to patients' needs (e.g., additional written information, diagrams and illustrations, translations). (n = 61)	95.1%	37.7%	57.4%
I change medication that might influence a patient's mental abilities. (n = 61)	98.4%	57.4%	50.0%
I encourage the patient to discuss the decision with a person to whom they are close. (n = 61)	95.1%	59.0%	36.1%
I give the patient the option of being accompanied by someone to whom they are close. (n = 61)	100.0%	57.4%	42.6%
I take care to ensure that the dialogue occurs in a relaxed and comfortable atmosphere. (*)(n = 61)	100.0%	75.4%	24.6%
I acknowledge and discuss psychological aspects, such as anxiety and avoidance tendencies, or carry out short psychotherapeutic interventions. (*)(n = 60)	98.3%	63.3%	35.0%

Note. *$p < 0.01$, chi-square-test

Table 10

Perceived usefulness of guidelines and training in DMC

	Guidelines	Training
Not at all useful	0.6% (*n* = 1)	0.6% (*n* = 1)
Not particularly useful	5.0% (*n* = 9)	0.6% (*n* = 1)
Rather useful	43.6% (*n* = 78)	52.5% (*n* = 94)
Very useful	50.8% (*n* = 91)	46.3% (*n* = 83)

Table 11

Requests for guidance in DMC evaluation

Assessment tools (multiple answer options)	Number of respondents
Semi-structured interview with partly predetermined questions	38.7% (*n* = 72)
Standardized interview with precisely determined questions	43.0% (*n* = 80)
Questionnaire or written test	36.6% (*n* = 68)
Non-written test procedure	31.2% (*n* = 58)
None of the above	3.8% (*n* = 7)

Case 1: Chemotherapy

A patient must decide whether or not he wants his cancer to be treated using chemotherapy. If the patient undergoes chemotherapy, the chance of stopping tumor growth without recurrence is 70%. Against this context, refraining from treatment will probably result in death within a few months. There are no other pertinent treatment options. The patient's medical decision-making capacity is in doubt and requires further examination.

In which case would you apply higher standards for assessing medical decision-making capacity in terms of mental abilities?

1) The patient chooses to undergo chemotherapy.

2) The patient chooses not to undergo chemotherapy (treatment refusal).

3) I would apply equally stringent standards in terms of mental abilities in both cases.

Case 2: Renal insufficiency

A person with dementia has renal impairment, requiring a change of medication (Intervention 1). However, at this time, the patient lacks the ability to judge the proposed changes in medication, and the doctor has ordered these in consultation with the authorized representatives. At the same consultation, surgery for a malignant skin tumor on the nose must also be discussed (Intervention 2).

How would you proceed to obtain approval for Intervention 2?

1) Since the patient's decision-making incapacity has already been assessed within the context of Intervention 1, I will directly address the patient's surrogate decision maker to obtain consent for Intervention 2.

2) As there are two different interventions, I would again assess the patient's judgment separately for Intervention 2 and only then decide whether I need the approval of the authorized representatives to carry out the treatment.

Figure 1. Case vignettes (based on Hermann et al., 2014)